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Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1. (Currently Amended) A semiconductor device comprising:
- a silicon substrate:
- a gate electrode layer; and
- a gate insulation film disposed between the silicon substrate and the gate electrode layer, wherein

the gate insulation film is a high relative permittivity (high-k) film being formed by forming a precursor film consisting essentially of at least one metal and silicon, and performing a nitriding treatment on the precursor film;

wherein the gate insulation film is formed according to a plasma CVD technology.

- 2. (Canceled)
- (Original) The semiconductor device as claimed in claim 1, wherein a silicon nitride film is formed as a barrier layer between the silicon substrate and the gate insulation film.
- (Original) The semiconductor device as claimed in claim 3, wherein the silicon nitride film is formed according to a direct nitriding technology by plasma.
- (Original) The semiconductor device as claimed in claim 1, wherein a silicon nitride film is disposed on the gate insulation film.

- (Original) The semiconductor device as claimed in claim 5, wherein the silicon nitride film and the gate insulation film are alternately laminated on the silicon substrate.
- (Original) The semiconductor device as claimed in claim 1, wherein a buffer layer is formed between the silicon substrate and the gate insulation film.
- 8. (Previously Presented) The semiconductor device as claimed in claim 1, wherein an alumina (Al₂O₃) monocrystal film is formed between the silicon substrate and the gate insulation film.
- (Original) The semiconductor device as claimed in claim 8, wherein the alumina monocrystal film is formed according to a plasma CVD technology.
- 10. (Previously Presented) The semiconductor device as claimed in claim 1, wherein the gate insulation film has one of compositions selected from a following list:

M₃Si₆N₁₁ (M=La, Ce, Pr, Nd, Sm);

M₂Si₅N₈ (M=Ca, Sr, Ba, Eu):

MYbSi₄N₇ (M=Sr, Ba, Eu);

BaSi₄N₇:

Ba2Nd7Si11N22.

 (Currently Amended) A method for manufacturing a semiconductor device comprising the steps of:

forming a precursor film consisting essentially of a mixture of at least one metal and silicon.

forming a gate insulation film by performing a nitriding treatment on the precursor film, and

forming a gate electrode layer on the gate insulation film, wherein the

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gate insulation film is a high relative permittivity (high-k) film:

wherein the gate insulation film is formed according to a plasma CVD technology.

12. (Canceled)

- 13. (Original) The method for manufacturing the semiconductor device as claimed in claim 11, further comprising the step of forming a silicon nitride film as a barrier layer between the silicon substrate and the gate insulation film.
- 14. (Original) The method for manufacturing the semiconductor device as claimed in claim 13, wherein the silicon nitride film is formed according to a direct nitriding by plasma.
- 15. (Original) The method for manufacturing the semiconductor device as claimed in claim 11, wherein a silicon nitride film is disposed on the gate insulation film.
- 16. (Original) The method for manufacturing the semiconductor device as claimed in claim 15, wherein the silicon nitride film and the gate insulation film are alternately laminated on the silicon substrate.
- 17. (Original) The method for manufacturing the semiconductor device as claimed in claim 11, further comprising the step of forming a buffer layer between the silicon substrate and the gate insulation film.
- 18. (Original) The method for manufacturing the semiconductor device as claimed in claim 11, further comprising the step of forming an alumina (Al₂O₃) monocrystal film between the silicon substrate and the gate insulation film.

- 19. (Original) The method for manufacturing the semiconductor device as claimed in claim 18, wherein the alumina monocrystal film is formed according to a plasma CVD technology.
- 20. (Original) The method for manufacturing the semiconductor device as claimed in claim 11, wherein the gate insulation film has one of compositions selected from a following list:

M₃Si₆N₁₁ (M=La, Ce, Pr, Nd, Sm);

M₂Si₅N₈ (M=Ca, Sr, Ba, Eu):

MYbSi₄N₇ (M=Sr, Ba, Eu);

BaSi₄N₇:

Ba2NdzSi11N23.

- 21. (Previously Presented) The semiconductor device as claimed in claim 3, wherein a silicon nitride film is disposed on the gate insulation film.
- 22. (Previously Presented) The method for manufacturing the semiconductor device as claimed in claim 13, wherein a silicon nitride film is disposed on the gate insulation film.
 - 23. (Currently Amended) A semiconductor device comprising: a silicon substrate:
 - a gate insulation film formed directly on the silicon substrate; and
 - a gate electrode layer formed directly on the gate insulation film, wherein

the gate insulation film is a high relative permittivity (high-k) film being formed by forming a precursor film consisting essentially of at least one metal and silicon, and performing a nitriding treatment on the precursor film;

wherein the gate insulation film is formed according to a plasma CVD technology.

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24. (Currently Amended) A method for manufacturing a semiconductor device comprising the steps of:

forming a precursor film consisting essentially of a mixture of at least one metal and silicon.

forming a gate insulation film by performing a nitriding treatment on the precursor film, and

forming a gate electrode layer directly on the gate insulation film, wherein the gate insulation film is formed directly on a silicon substrate, and the gate insulation film is a high relative permittivity (high-k) film;

wherein the gate insulation film is formed according to a plasma CVD technology.